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AT/IFW/8



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Inter Application of: Sosa, et al.

Serial No.: 10/723,656

Confirmation No.: 8871

Filed: November 26, 2003

For: Use of Tetrafunctional Initiators to
Improve the Rubber Phase Volume
of HIPS

§ Atty. Dkt. No.: COS-919

§ Group Art Unit: 1711

§ Cust. No.: 25264

§ Examiner: Asinovsky

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Honorable Commissioner:

CERTIFICATE OF MAILING 37 CFR 1.10	
I hereby certify that this correspondence is being deposited on the date below with the United States Postal Service as Express Mail, Mailing Label No. <u>EQ 190573943 US</u> , in an envelope addressed to: Mail Stop Appeal Brief-Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.	
Date <u>5/5/06</u>	Signature <u>[Signature]</u>

TRANSMITTAL LETTER AND FEE AUTHORIZATION

In connection with the above identified application, Applicants respectfully submit the following documents:

1. Reply Brief.

The Commissioner is authorized to charge the fee of \$500.00, along with any additional fees that may be required for this submission, or credit any overpayments, to Deposit Account No. 03-3345.

Respectfully submitted,

[Signature]

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Group Art Unit: 1711

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**Examiner: Asinovsky**

## For: Use of Tetrafunctional Initiators to Improve the Rubber Phase Volume of HIPS

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Applicants submit this Reply Brief to the Board of Patent Appeals and Interferences in response to the Examiner's Answer dated April 13, 2006.

**I. THE EXAMINER ERRED IN REJECTING CLAIMS 1-36 UNDER 35 U.S.C. §103(a) AS BEING UNPATENTABLE OVER *KRUPINSKI* BECAUSE *KRUPINSKI* DOES NOT TEACH, SHOW OR SUGGEST A COPOLYMERIZED PRODUCT HAVING A G/R THAT INCREASES AS SWELL INDEX INCREASES.**

The Examiner states that “it would have been obvious to one of ordinary skill in the art to consider that the ratio of % gel to % rubber can be obtained in each patent to *Krupinski* invention because each reference discloses a process for making HIPS wherein the process conditions are controlled by the residence time and the reaction temperature in the presence of the same tetrafunctional peroxide initiator and the amount of said

## COS-919 Reply Brief

tetrafunctional initiator and the amount of rubber polymer.” See, Examiner’s Answer at page 8. The Examiner further states that the prima facie case of obviousness is that the analogous process condition for producing a HIPS in the presence of the same tetrafunctional peroxide initiator in each invention can produce a high gel value of a rubber and thereby high swell index will occur in each *Krupinski* invention. See, *Id.*

Appellants strongly disagree. In particular, Appellants disagree that if *Krupinski* teaches a high gel value of rubber that *Krupinski* thereby teaches a high swell index will occur. The Examiner must provide some evidentiary basis for the existence and meaning of the scientific principle relied on. See, *In re Grose*, 592 F.2d 1161, 1167-68, 201 U.S.P.Q. 57, 63 (C.C.P.A. 1979.) Appellants submit that they have produced evidence that one skilled in the art would believe that a reduction in the swell index would occur. As previously presented, such an effect (e.g., G/R increasing as swell index increases) was not known and in fact the contrary was believed. See, *Impact Polystyrene: Factors Controlling the Rubber Efficiency*, E.R. Wagner and L.M. Robeson, Rubber Chem. Tech., Vol. 43, pp 1129-1137, at 1131-1132 and 1135-1136 and U.S. Patent No. 6,703,460 (*Blackmon*) at Table III.

Further, the prior art reference must teach or suggest all of the limitations of the claims. See, *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970.) As previously stated, *Krupinski* does not teach or suggest a ratio of % gel to % rubber (G/R) that increases as swell index increases, as recited in the pending claims.

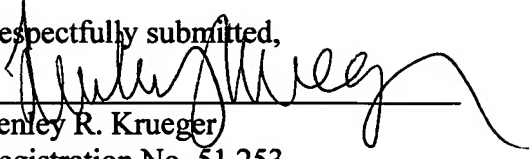
In addition, that which is inherent in the prior art, if not known at the time of the invention, cannot form a proper basis for rejecting the claimed invention as obvious under Section 103. See, *In re Shetty*, 566 F.2d 81, 86, 195 U.S.P.Q. 753, 756-57 (C.C.P.A. 1977.) It would not have been obvious to those of ordinary skill in the art to choose trifunctional and tetrafunctional peroxides to produce a copolymerized product having a G/R that increases as swell index increases. Accordingly, Appellants respectfully request reversal of the rejection.

### Conclusion

In conclusion, *Krupinski* nowhere teaches or suggests recovering a copolymerized product that has a ratio of % gel to % rubber (G/R) that increases as swell index

increases, such as recited in the pending claims. Thus, Appellants respectfully request reversal of the rejections of claims 1-36.

Respectfully submitted,



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## **Appendix A**

### *Additional Evidence*

1. *In re Grose*, 592 F.2d 1161, 201 U.S.P.Q. 57 (C.C.P.A. 1979.)